IRM-8420

Features:

- LOW VOLTAGE AND LOW POWER CONSUMPTION.
- PHOTODIODE WITH INTEGRATED CIRCUIT.
- HIGH SENSITIVITY.
- TTL AND CMOS COMPATIBILITY.
- HIGH IMMUNITY AGAINST AMBIENT LIGHT.
- HIGH PROTECTION ABILITY TO EMI AND METAL CASE CAN BE CUSTOMIZED.
- LONG RECEPTION DISTANCE.

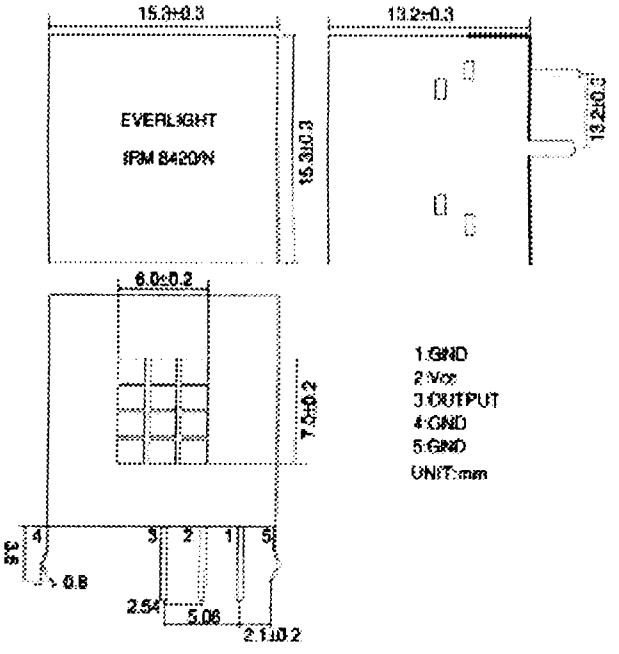
Applications:

- Light detecting portion of remote control
- TVs.
- VCRs.
- Audio Equipment.
- Air Conditioners
- CATV set top boxes.
- Electric Fan.
- Multi-media Equipment.
- Optical switch

Description:

1. The module is a small type infrared remote control system receiver which has been developed and designed by unilizing hte latest hybrid technology.
2. Thiis single unit tupe module incorporates a PIN photodiode and a receiving preamplifier IC.
3. The demodulated output signal can directly be decoded by a microprocessor.

Package Dimension:



Absolute Maximum Ratings (Ta=25°)

PARAMETER	SYMBOL	RATINGS	UNIT	NOTICE
REVERSE VOLTAGE	Vr(max)	4.3 ~ 5.7	V	
OPERATING TEMPERATURE	Topr	-10 ~ +60	°C	
STORAGE TEMPERATURE	Tstg	-20 ~ +70	°C	
SOLDERING TEMPERATURE	Tsol	260	°C	4mm from mold body less than 5 seconds

Electro-Optical Characteristics (Ta=25°)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITION
Supply voltage	Vcc	4.7	5	5.3	V	DC voltage
Supply current	Icc			3	mA	No signal input
B.P.F center Frequency	fo		37.9		KHz	
Peak Wavelength	λp		940		nm	
Reception distance	d	8 4			m	At the ray axis *1
Half angle (horizontal)	θh		45		deg	
Half angle (vertical)	θv		35		deg	
High level pulse width	T_H	400		800	μs	
low level pulse width	T_L	400		800	μs	
High level output voltage	V_H	4.5			V	
Low level output voltage	V_L		0.2	0.5	V	

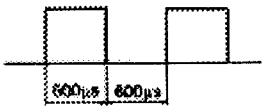
* 1:The ray receiving surface at a vertex and relation to the ray axis in the range of α=0° and 45°.

Performance:

The specified electro-optical characteristics is satisfied under the following conditions at the controllable distance.

1. Measurement place
   A place that is nothing of extreme light reflect in the room.
2. External light
   Project the light of ordinary white fluorescent lamps which are not high frequency lamps and must be less then 10 Lx at the module surface.
3. Standard transmitter
   A transmitter whose output is so adjusted as to V0=400m Vp-p and the output waveform shown in Fig.-1. According to the measurement method shown in Fig.-2. is specified as the standard transmitter. However, the infrared photodiode to be used for the transmitter should be λp=940nm, Δλ=50nm. Also, photodiode is used of PD438B (Vr=5V). (Standard light/Light source temperature 2856°K).
4. Measuring system
   According to the measuring system shown in Fig.-3

Fig.-1 Transmitter Output



D.U.T.output Pulse

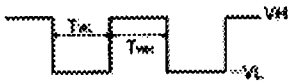


Fig.-2 Measuring Method

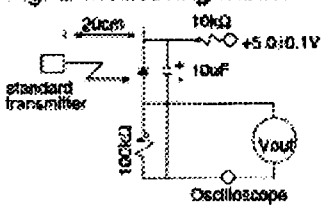
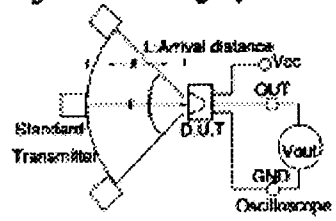
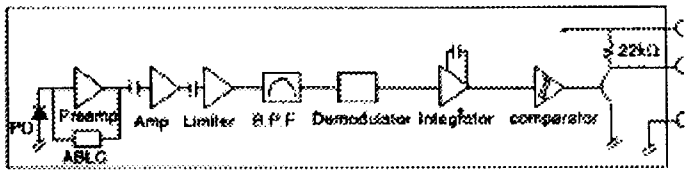


Fig.-3 Measuring System



■ Block Diagram:



■ Application Circuit: